supercilium (commencing at the base of the maxilla and reaching to the sides of the neck), chin, cheeks, throat, breast, and shoulder-edge pure unsullied white; crown and nape bright ochreous ferruginous; back and upper tail-coverts ochreous olive; wings when closed ochreous brown; middle rectrices brown, washed with ochreous, remainder with outer webs coloured like the middle pair; inner webs pure brown; the terminal portion of all the rectrices hardly tinged with ochreous; abdomen, flanks, thigh, and under tail-coverts ochreous brown, the ventral region exhibiting a brighter ferruginous tint; bill yellow, probably red in the fresh skin.

Wing 3·62 inches, tail 4·87, tarsus 1·25, bill from nostril (in a straight line) 1·00.

Hab. Kareen Hills, Burma.

Munia fumigata, n. sp.

Above dark brown, deeper on the head; rump white; quills above and externally deep brown, on the borders of the inner webs pale tawny rufous, most developed on the secondaries and tertiaries; tail jet-black, the middle pair of rectrices being slightly elongated; chin, throat, and cheeks concolorous with the head; ear-coverts brown, with pale edgings; breast, abdomen, and flanks dingy white, the breast-feathers with brown spots; thigh and under tail-coverts brown, with rusty margins.

Wing 2·00 inches, tail 1·75, tarsus 0·50.

Described from examples obtained by Lieutenant R. W. Ramsay in the island of South Andaman. Nearly allied to *M. acuticauda*, Hodgs., but to be readily distinguished by the absence of pale shafts to the dorsal plumage.

LVIII.—*Reply to Dr. J. E. Gray's Observations on certain Species of Sponges described in the 'Proceedings of the Zoological Society' for* 1873. By Dr. J. S. Bowerbank, F.R.S. &c.

Dr. Gray has made so many inaccurate assertions in his observations on my descriptions of some sponges in the 'Proc. Zool. Soc.' for 1873, that I must request space to correct his misapprehensions on these subjects. Had he confined himself to legitimate criticisms on the subject, I should not have thought it necessary to controvert his hastily formed opinions. In these explanations I shall follow the order in which Dr. Gray has treated these matters in the 'Annals and Magazine of Natural History' for September 1873.

Leuconia glomerosa, Dr. Gray says, "is the same as the species I long ago described and figured under the name of *Aphroceras alcicornis* (P. Z. S. 1858, p. 113, t. x.)." I can only say that I have carefully examined at the British Museum the specimen presented by Dr. Harland, and its structure is specifically distinct from my *L. glomerosa*. In truth, any one looking at the figures of the two would at once come to the conclusion that they were different species.

Ciocalypta Tyleri.—I am certainly astonished that Mr. Carter and Dr. Gray cannot see the remarkable anatomical differences in structure of the genera *Halichondria* and *Ciocalypta*. I can only refer them to the 'Philosophical Transactions' for 1862 (for *Ciocalypta*, page 1195, tab. xxiii. figs. 4 & 5, and for *Halichondria* to page 1113, tab. xxxiii. figs. 1 & 5) to disabuse them of their very hasty and inaccurate conclusions.

As I have given my reasons, in the third volume of the 'Monograph of British Spongiadæ,' for disagreeing with my friend Mr. Norman in not adopting his genus *Oceanapia*, I shall not trouble Dr. Gray on that subject.

Dr. Gray writes in page 267 as follows:—"Mr. Carter informs me that the *Haliphysema tubulatum* (P. Z. S. 1873, p. 29, t. vii.) is a massive form of *his Dictyocylindrus* of the British coast." In this short sentence there are two errors. In the first place, the skeleton-structure of *Haliphysema tubulatum* is a series of hollow membranous tubes, and the structure of *Dictyocylindrus* is essentially that of a solid cylinder composed of closely compacted spicula. In the next place, the genus *Dictyocylindrus* was established by me, not by Mr. Carter (see 'Philosophical Transactions of the Royal Society' for 1862, p. 1108). Mr. Carter can scarcely be obliged to Dr. Gray for such palpable misstatements.

Spongionella Holdsworthii.—Dr. Gray's style of treating his brethren in the study of natural history is very off-handed and magisterial. In treating of this sponge (p. 266) he writes:—"This sponge has been formed into a genus under the name of *Phyllospongia*. It has very little affinity and quite a different structure to *Spongionella pulchra*, which is considered the type of the genus." Here, again, Dr. Gray is, as usual, very inaccurate. In the first place, there is no such species as *Spongionella pulchra* as the type of the genus: the type specimen of the genus is in my possession, and its specific name is not *pulchra* but *pulchella*; and its structural peculiarities and the mode of the arrangement of its skeleton are in perfect accordance with the corresponding organs of *S. Holdsworthii*, as any one may perceive by comparing the skeleton figure of

S. pulchella, represented in plate lxxiv. fig. 10, 'Philosophical Transactions of the Royal Society' for 1862, with the corresponding representation of the skeleton-structure of *S. Holdsworthii* (Proc. Zool. Soc. 1873, pl. vi. fig. 7). There is a slight difference in the size of the fibres in the two species, but not in the mode of their arrangement.

If it will be any satisfaction to Dr. Gray, I will explain to him my reasons for designating the Ceylon sponge *Spongionella Holdsworthii*. Esper, and most of the old writers on natural history, had but one genus for the whole of the Spongiadæ—that of *Spongia*; and their determinations of species were based on external characters only. The consequence has been such an inextricable confusion, that a satisfactory determination or recognition of their species can scarcely ever be arrived at.

In the first place, the Ceylon sponge is not a *Spongia*, but a *Spongionella*. Esper's *Spongia papyracea* tab. lxv. and *Spongia papyracea* tab. lxv. A have every appearance of being separate species, as far as we can judge by the form and texture represented; and independent of the variations in form, substance, and external characters in these two, there are several British species, and a very considerable number of African and Australian ones, in my possession that, regarding only form and substance, would quite as readily serve as the types of Esper's figures as those brought home by Mr. Holdsworth. Esper's figures exhibit no structural characters by which a species can be satisfactorily determined. I thought therefore that it was most for the interests of science that Mr. Holdsworth's sponge should stand upon its own merits, and that not only the best type of its average external form, but also its anatomical structure should be accurately represented and described, so as to avoid future misconceptions on the subject.

An equal degree of careless error pervades his criticism of the sponge I have described in the same report on Mr. Holdsworth's Ceylon sponges as *Isodictya Donnani*. No one who really knows the structure of the genus *Isodictya* can fail to recognize it in figure 3, pl. vi. Proc. Zool. Soc. Nor can the veriest tyro in sponge-anatomy for a moment imagine it to be a *Dictyocylindrus*. I really cannot imagine that Mr. Carter has justified such wild statements on that subject as Dr. Gray has attributed to him.

Dr. Gray has for the third time, in the 'Annals and Magazine of Natural History' for September last, ventilated his remarkably visionary scheme of arranging the Spongiadæ by the forms of their spicula. As I have criticised his very im-

practicable scheme in my paper in the 'Proceedings of the Zoological Society' for 1868 (p. 118), entitled "Observations on Dr. Gray's 'Notes on the arrangement of Sponges, with the description of some new Genera,'" I should not have taken any notice of his paper had he not repeated himself for the second or third time in endeavouring to enhance himself in his own and others' esteem by very considerately deploring my shortcomings in anatomy and physiology:—"as Dr. Bowerbank had no preliminary study of anatomy, many of his ideas are most crude and not consistent with physiological knowledge." It is a well-known legal instruction to counsel, that "if you find that you really have no case, then abuse plaintiff's attorney." A similar course seems to be that adopted by Dr. Gray. It is very true that I did not attend the lectures at which Dr. Gray attained his knowledge of anatomy and physiology in his youth, and that I studied those sciences in my own way, and that the results of our respective modes of attaining knowledge have led to very opposite conclusions,—Dr. Gray's to his publishing (Gray's 'British Plants,' vol. i. p. 362) all the British sponges then known as British plants, and to his describing the *siliceous* spicula of *Tethea pilosa* as *hairs*; while my course of studies led me to the conclusion that sponges were animals.

Dr. Gray's mode of concocting a new arrangement of the Spongiadæ by means of the forms of their spicula is a very facile one—far easier than examining more than a thousand specimens to gain a knowledge of their various forms and their positions *in situ*. Dr. Gray asked me to give him a copy of my works on sponges, which I did with pleasure; and he then cut up the plates and arranged the figures according to his own fancy, and in doing so he succeeded in making four new genera and four new species out of the spicula of two sponges, never having at that time seen a scrap or a spiculum of either of them (see Proc. Zool. Soc. 1868, p. 129). This mode of proceeding is quite after the old adage of "making your hay with other people's grass."

BIBLIOGRAPHICAL NOTICES.

Andrew Garrett's 'Fische der Südsee,' beschrieben und redigirt von Albert C. L. G. Günther. Heft I. 4to. Hamburg: L. Friedrichsen & Co., 1873.

We are accustomed in this country to see merchants and others engaged in various departments of trade or in professions devoting